



Published in final edited form as:

Am J Addict. 2013 ; 22(3): 285–291. doi:10.1111/j.1521-0391.2012.12004.x.

Patient Perspectives on Choosing Buprenorphine over Methadone in an Urban Equal Access System

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Abstract

Background—Recent policy initiatives in Baltimore City, MD significantly reduced access disparities between methadone and buprenorphine in the publicly-funded treatment sector.

Objectives—This study examines reasons for choosing buprenorphine over methadone among patients with access to both medications.

Methods—This study was embedded within a larger clinical trial conducted at two outpatient substance abuse treatment programs offering buprenorphine. Qualitative and quantitative data on treatment choice were collected for new patients starting buprenorphine treatment (n=80). The sample consisted of predominantly urban African American (94%) heroin users who had prior experience with non-prescribed street buprenorphine (85%) and opioid agonist treatment (68%). Qualitative data were transcribed and coded for themes, while quantitative data were analyzed using descriptive and bivariate statistics.

Results—Participants typically conveyed their choice of buprenorphine treatment as a decision against methadone. Buprenorphine was perceived as a helpful medication while methadone was perceived as a harmful narcotic with multiple unwanted physical effects. Positive experiences with non-prescribed “street buprenorphine” were a central factor in participants’ decisions to seek buprenorphine treatment.

Conclusions—Differences in service structure between methadone and buprenorphine did not strongly influence treatment-seeking decisions in this sample. Personal experiences with

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Disclosures

Until 2009, Dr. Schwartz was Program Director and Fellow at the Open Society Institute- Baltimore, which made grants to support drug abuse treatment in Baltimore. Drs. Schwartz and Jaffe also serve as members of the Board of Baltimore's Substance Abuse Treatment Authority (Baltimore Substance Abuse Treatment Systems; BSAS). A NIDA-funded study in which Dr. Schwartz serves as a Co-Investigator receives medication in-kind from Reckitt Benckiser Pharmaceuticals. Dr. O'Grady has been reimbursed for his time by Reckitt Benckiser Pharmaceuticals. Dr. Olsen was the BSAS Medical Director from 2009 to 2011.

medications and the street narrative surrounding them play an important role in treatment selection decisions.

Scientific Significance—This study characterizes important decision factors that underlie patients' selection of buprenorphine over methadone treatment.

Keywords

buprenorphine; methadone; treatment choice; diversion; street narrative; patient perspective

INTRODUCTION

Methadone is an evidence-based medication for the treatment of opioid dependence, and has been available in the U.S. for over four decades.^{1, 2} In the U.S., the delivery of pharmacological treatments for opioid dependence has long been relegated to a specialty sector of the healthcare system due, in large part, to government regulations and physicians' reluctance to prescribe medications for addiction treatment.^{3, 4} Buprenorphine was approved by the U.S. Food and Drug Administration for the treatment of opioid dependence in late 2002. Buprenorphine had fewer regulatory constraints compared to methadone, and could be used in a wider array of clinical settings.³ The less stringent regulations also reduced patient burden, as buprenorphine patients could receive treatment in an office-based setting, pick up prescriptions from a pharmacy, and receive take-home medication sooner than patients receiving methadone. In its early stages of adoption, buprenorphine tended to be used by populations with insurance coverage,⁵ and patients relying on the publicly-funded treatment sector often did not have equal access to buprenorphine when it first became available.⁶

Publicly-funded buprenorphine treatment began to expand in Baltimore City with the launch of the Baltimore Buprenorphine Initiative (BBI) in 2006. Under the BBI, patients could start buprenorphine in formerly drug-free outpatient counseling programs, with the goal of eventually transitioning their buprenorphine treatment to primary care.⁷ Several years after the BBI was initiated, Maryland expanded its state Medicaid Program to cover certain outpatient substance abuse treatment services, including methadone. Prior to these policy changes, publicly-funded methadone treatment in Baltimore was characterized by long waiting lists^{8, 9} and there was limited availability of publicly-funded buprenorphine treatment. Under the new policies, access to both medications was rapidly expanded. For the first time, low-income opioid-dependent people in Baltimore City enjoyed timely access to both methadone and buprenorphine pharmacotherapy. The erosion of access barriers for methadone and buprenorphine provided unique opportunities to examine the characteristics of patients accessing each type of treatment,¹⁰ as well as their reasons for choosing treatment with one medication and not the other.

The current study seeks to examine reasons patients have for choosing treatment with buprenorphine. Little is known about the key factors that shape patients' decisions to start buprenorphine when treatment with methadone is also readily available. This is particularly the case for urban minority populations relying on public-sector treatment. Examining how buprenorphine is viewed from the user's perspective – both as a pharmacological agent and as a service delivery model – is critical for understanding the decision processes underlying

their treatment selection. Based on our previous research on treatment entry and engagement,⁸⁻¹⁹ we hypothesized that patients would choose buprenorphine treatment due to its perceived advantages over methadone in patient burden (e.g. ability to receive take-home medication more quickly, fill prescriptions at a regular pharmacy, etc.). Previous research shows that some patients find methadone program service structure and clinic rules overly rigid and aversive.¹⁶⁻¹⁷

Thus, our expectation was that patients would be drawn to buprenorphine treatment due to its more relaxed compliance requirements.

METHODS

Study Design and Participants

The current study was embedded within a larger clinical trial comparing different levels of counseling for individuals starting buprenorphine treatment. The parent study recruited participants from new buprenorphine treatment admissions at two publicly-funded outpatient treatment centers. Exclusion criteria for the parent study were minimal, and included only pregnancy or severe cognitive disability. Research assistants were stationed at the sites and attempted to meet with each new patient within several days of admission to screen them for study eligibility. Of 443 patients approached over the course of a year, 3 actively declined to participate, 3 were not enrolled due to comprehension difficulties, and 92 expressed initial interest but could not be enrolled due to time constraints. The current study utilizes information collected prior to random assignment from patients enrolled in the parent study during the final recruitment quarter ($n=80$), when an instrument was added to the baseline interview to examine participants' reasons for choosing buprenorphine over other treatment approaches.

Measures

Addiction Severity Index—Participant demographics and baseline drug use characteristics were obtained from the Addiction Severity Index, 5th edition.²⁰

Supplemental Questionnaire—A study-specific questionnaire was used to gauge exposure to previous treatments and use of non-prescribed “street buprenorphine.”

Reasons for Choosing Buprenorphine—Towards the end of the baseline interview, participants were asked three open-ended questions: (1) why did you decide to get treatment with buprenorphine?; a follow-up probe of (2) what was the single most important reason that you entered buprenorphine treatment?; and (3) why did you choose buprenorphine and not methadone treatment? Research assistants typed participants' responses verbatim. Research assistants were instructed not to mention methadone or other treatment modalities for the first two questions in order to avoid imposing a frame of reference that would artificially bias participants' responses for these general queries.

Buprenorphine vs. Methadone—Following these open-ended items, structured questions were asked that assessed the importance of 16 potential reasons for choosing buprenorphine over methadone. These 16 items were developed by a panel of experts at

Friends Research Institute through an iterative process, and explicitly contrasted buprenorphine and methadone in terms of the different pharmacological, service delivery structure, and socio-cultural characteristics of the two treatments. Participants assessed each reason as either *not at all important*, *a little important*, or *very important*. The development of the questions was informed by research experiences with opioid-dependent individuals in Baltimore, including studies of factors influencing dropout from methadone treatment^{25, 26} and in-depth qualitative interviews with a subset of participants in the parent study. While these items were not neutral (e.g., some of the items about methadone included negative aspects of methadone treatment as identified in previous research), they were asked after the fully-neutral open-ended questions and reflect that these participants had already chosen buprenorphine over methadone. These questions were not meant to form a psychometric scale, but rather to augment the open-ended questions in illuminating factors that could shape treatment entry decisions.

Analysis

Qualitative analysis used an inductive data reduction process in which multiple coders examined the text of participants' responses.²¹ In the first stage of open coding, four members of the research team individually examined responses to each question and assigned preliminary codes and notes to each segment of text. The coders then met to discuss their interpretations of key themes and concepts emerging from the data. The meeting was structured as a workshop, and all contributions were written out on large poster boards. Afterwards, the coders discussed the arrangement and consolidation of emergent themes until reaching consensus on the major thematic structure of the data.

Responses to the structured questionnaire were analyzed using basic descriptive statistics. Fisher's exact test was used in a series of 2x2 contingency tables to examine whether responses differed based on prior treatment experience. After considering the small sample size and the distribution of responses, response categories were collapsed for this analysis (not all important vs. a little important/very important) and compared across prior treatment experience with (a) methadone and (b) buprenorphine (each *no vs. yes*).

RESULTS

Participant Characteristics

The sample for the current study was 93.8% African American and 33.8% female, with a mean age of 45.2 ($SD=7.0$). Injection drug users constituted 22.5% of the sample. On average, participants had completed 11.5 years of education ($SD=1.8$). Only 11.3% were currently married, while 31.3% had worked within the last 30 days. During the 30 days prior to baseline, on average, participants reported using heroin 21.1 days ($SD=9.9$), other opioids 5.4 days ($SD=8.8$), and cocaine 7.4 days ($SD=10.4$). Past 30 day cocaine use was reported by over half of the sample (58.8%). There was a range of previous exposure to opioid pharmacotherapy, with 32.5% reporting they had never been treated with either buprenorphine or methadone. Previous treatment with methadone was reported by 42.5%, whereas 52.5% had been treated with buprenorphine in the past (overall, 27.5% reported prior exposure to both methadone and buprenorphine treatment). Prior experience with non-

prescribed “street buprenorphine” was widespread (85.0%). Participant characteristics are summarized in Table 1. There were no significant differences between these 80 participants and the rest of the parent study sample for any of the variables described above.

Reasons for Choosing Buprenorphine: Responses to Open-Ended Questions

Participants’ responses to the open-ended questions about why they chose treatment with buprenorphine contained several inter-related themes, described below.

Treatment Readiness—In describing their reasons for seeking treatment, participants commonly cited personal readiness for treatment and behavior change. The sentiment of personal readiness for treatment or recovery was offered by 58.8% of the sample during the open-ended questions. While tapping a fundamental subjective reality for participants, the theme of treatment readiness was generic in the sense that it could be applied to seeking any kind of addiction treatment and not buprenorphine specifically (e.g., “tired of being tired”).

Withdrawal Avoidance—Participants described the desire to avoid withdrawal as a major reason for seeking treatment with buprenorphine specifically. Buprenorphine was viewed as exceptionally effective in suppressing the symptoms of heroin withdrawal, and was viewed as producing mild withdrawal symptoms of its own. Withdrawal suppression was cited as a reason for choosing buprenorphine by 32.5% of the sample.

Normalcy—A recurring theme (conveyed by 25.0% of the sample) was that buprenorphine fosters a state of normalcy that cannot be achieved with either heroin or methadone. Buprenorphine’s non-sedating effect was seen as a highly desirable property of the medication, particularly when contrasted with methadone.

Preference over Methadone—Participants commonly couched their decision to enter buprenorphine treatment as a decision *against* methadone. Comparisons to methadone were ubiquitous, even in responses to the first question (“why did you decide to enter buprenorphine treatment?”), before the research assistant mentioned methadone. An unsolicited comparison to methadone was made by over half of the sample (52.5%). Thus, participants viewed their decision to seek buprenorphine treatment through the prism of methadone maintenance. Unlike buprenorphine, methadone was commonly perceived as drug substitution with limited therapeutic or medicinal benefit. Participants framed methadone as a harmful drug, while buprenorphine was viewed as a helpful medicine (e.g., “I see people do the methadone and it’s nasty and it puts me to sleep.... Taking the buprenorphine is like taking a vitamin, so it’s strengthening me.”).

Participants’ reasons for preferring buprenorphine over methadone were grounded in their perceived pharmacological differences and the consequences thereof. Participants commonly expressed concern over withdrawal from methadone, and buprenorphine was seen as having a milder withdrawal syndrome. Some participants also perceived methadone as addicting and necessitating longer-term or indefinite treatment, whereas buprenorphine could be taken for a shorter duration.

Negative Effects of Methadone—Participants conveyed numerous beliefs about the negative physical effects of methadone. Overall, 91.3% of the sample cited at least one negative property of methadone. Negative effects attributed to methadone included perceived ineffectiveness in suppressing heroin cravings, intensification of cravings for other drugs, deterioration of teeth and bones, calcium depletion, swelling, over-sedation, skin discoloration, stomach problems, internal bleeding, weight gain, sagging skin, irritability, sleepwalking, negative effects on posture and skeletal cohesion, diabetes, loss of bodily control, decreased economic productivity, addiction to methadone, and death.

Sources of Knowledge—Participants described gaining knowledge about buprenorphine and its effectiveness from a variety of sources. Some participants (12.5% of the sample) reported witnessing the benefits of buprenorphine treatment in the lives of family, friends, and neighborhood acquaintances. Only a small number (7.5%) cited first-hand experiences with buprenorphine in a medical context (either as part of treatment or detoxification) as directly influential in their decision to seek buprenorphine treatment. However, a more sizable number (27.5%) reported learning of buprenorphine's effectiveness through first-hand experiences in a non-medical context; that is, buprenorphine obtained on the street and used for self-detoxification or self-management of heroin withdrawal (e.g., “I tried it on the street about a month ago and it worked really well, so I decided to get treatment with the buprenorphine.”).

Source of medication (medical vs. street) could not be discerned for an additional 8.8% who cited first-hand experiences with buprenorphine as influential in treatment selection.

Structured Items Contrasting Buprenorphine with Methadone

Responses to the 16 structured questions are shown in Table 2. Positive experiences with buprenorphine (either first- or second-hand) were widely recognized as important decision factors, with over two-thirds of the sample endorsing each of the 3 corresponding items as *very important*. “You tried buprenorphine on the street and it worked” was reported as *very important* by 73.8% and *a little important* by 11.3%.

Choice of buprenorphine over methadone was driven heavily by perceived differences in pharmacological and health effects of the two medications, but much less by differences in their service delivery characteristics. “Methadone is bad for you physically” was the item most commonly endorsed as *very important* (85.0%), with 10.0% reporting it as *a little important*. The perceived higher severity of withdrawal from methadone relative to buprenorphine was also widely endorsed as *very important* (77.5%). In contrast, participants placed extremely low weight on items corresponding to treatment delivery characteristics, including rules, costs, program crowding, and required counseling. Only 21.3% viewed the ability to earn take-home medication more quickly with buprenorphine as *very important*.

Opinions were mixed for the items relating to methadone stigma. The perception of methadone patients as “not really clean” was cited as *very important* by 33.8% and *a little important* by 20.0%. Similar patterns were evident for the other items in this category, including perception of patients receiving methadone as “not serious about their recovery”,

methadone as a treatment of “last resort”, and objections of other people to methadone treatment.

For several items, responses differed based on prior treatment experience. Participants with prior methadone treatment were more likely than their methadone-naïve counterparts to endorse as *a little important* or *very important* the items corresponding to longer perceived duration of methadone treatment (79.4% vs. 54.3%, $p=.030$), worse withdrawal with methadone relative to buprenorphine (100% vs. 84.9%, $p=.019$), unpleasant subjective effects of methadone (91.2% vs. 63.0%, $p=.004$), and methadone as a treatment of last resort (64.7% vs. 32.6%, $p=.006$). Compared to those without prior buprenorphine treatment, individuals who had been treated with buprenorphine in the past were more likely to endorse the idea of “methadone as a last resort” as *a little important* or *very important* (34.2% vs. 57.1%, $p=.046$).

DISCUSSION

The current study provides novel findings on decision processes for treatment selection among opioid-dependent individuals who, as a result of innovative policy initiatives, had access to both methadone and buprenorphine pharmacotherapy in publicly-funded treatment. This study extends decades of earlier research on the perceptions of opioid-dependent individuals regarding methadone treatment. Throughout the years, methadone has faced resistance from some sectors of the addiction treatment profession, from communities, and from drug-dependent individuals not in treatment.²² An early multi-state ethnographic study showed that patients receiving methadone were seen by out-of-treatment heroin users as “losers” who had “given up” the glorified lifestyle of the “righteous dope fiend.”²³ That study also documented the emergence of myths surrounding methadone, such as the belief that methadone is stored in and deteriorates bones and teeth.²⁴ Numerous other studies have confirmed the persistence of negative attitudes towards methadone and their impact on treatment recruitment and retention.^{11, 12, 25-29} Research has also shown that patients taking methadone are often hesitant to inform family members, employers, and physicians of their enrollment in treatment due to perceived stigma.³⁰ Such stigma and negative beliefs about methadone can lead to underutilization of a highly effective treatment modality.^{1, 2} In this way, the effectiveness of a medication can be supported or undermined by its “street narrative” – the dynamic storylines emerging from a mix of personal experiences and second-hand lore.

The current research shows that buprenorphine has a dramatically different street narrative than methadone among those who choose treatment with buprenorphine. Clearly, methadone was viewed as the main alternative to buprenorphine, but their perceived similarities ended there. Preferences for buprenorphine over methadone were driven by differences in the perceived pharmacological and physical effects of the two drugs, and to some extent the negative stigma of methadone. These factors were much more salient than the divergent treatment delivery structures for the two medications. This was an unexpected finding, given the much greater regulatory flexibility and increased freedoms for patients receiving buprenorphine (e.g., take-home medication, ability to receive treatment in office-based settings). Our expectation that patients would choose buprenorphine because of lower

compliance burden than methadone was based largely on studies of programmatic factors affecting retention in methadone treatment.^{16, 17} It is possible that programmatic features of treatment delivery will have a greater impact on retention than on recruitment. Thus, these findings should not be taken to imply that service delivery characteristics are inconsequential. For example, a qualitative study with patients in buprenorphine treatment found strong preferences for buprenorphine delivered in a patient-centered office-based setting as opposed to a methadone-style opioid treatment program.³¹

The findings of this study are consistent with research in the UK which found that patients choosing buprenorphine over methadone cited a negative view towards methadone as the most common reason for their choice of treatment.³² The current study is also consistent with past research showing that methadone is often perceived by its target population as having significant negative health consequences.^{11, 12, 23-29} Interestingly, patients with prior methadone treatment experience held more negative views towards methadone on some measures. Due to their limited access to resources and information, this patient sample may have been less able to dispel common methadone stereotypes and challenge the prevailing street narrative than a more affluent population might have. It is often pointed out that many common negative beliefs about methadone lack direct empirical evidence or are not attributable to methadone alone. For engaging opioid-dependent individuals in evidence-based treatment, the objective truth ultimately matters less than the street narrative. If a treatment is widely perceived as harmful, its underutilization is inevitable.

This study provides encouraging signs that, as use of buprenorphine expands in publicly-funded treatment, individuals who are hesitant to take methadone may find buprenorphine a more acceptable alternative. Participants commonly attributed their treatment decision to the belief that buprenorphine is effective, has minimal side-effects, and facilitates a return to normalcy that methadone cannot provide. This belief was typically rooted in participants' own experiences with the medication, which consisted heavily of non-prescribed street buprenorphine. Indeed, the vast majority of the sample reported that experience with street buprenorphine was very influential in their decision to seek treatment. The use of street buprenorphine is on the rise, a trend that corresponds to greater availability of the medication within the community, in general.³³

The use of diverted buprenorphine is often viewed as a public health problem and a threat to the public's acceptance of an evidence-based pharmacotherapy. Yet, heroin-addicted individuals commonly report using non-prescribed buprenorphine not to attain euphoria, but to relieve heroin withdrawal symptoms or attempt self-detoxification.^{15, 34, 35} The present study suggests that availability of street buprenorphine may paradoxically have some public health benefit by encouraging treatment entry among heroin users who have tried it. However, this study is unable to weigh the public health benefits and consequences of medication diversion. It is possible that availability of street buprenorphine may keep others from seeking treatment. Future studies should examine the relationship between use of non-prescribed buprenorphine and subsequent treatment entry, as well as whether prior experience with non-prescribed buprenorphine negatively impacts medication compliance and outcomes in treatment with buprenorphine.

In this study, a confluence of policy changes that coincided with an existing clinical trial provided the opportunity to examine preferences for opioid pharmacotherapies in publicly-funded treatment during a time when access disparities between methadone and buprenorphine were virtually eliminated. This strength of the study is balanced by potential limitations in generalizability to other treatment systems or other communities, particularly with respect to the street narrative surrounding these two medications. The population in this study (urban, predominantly African Americans) is not demographically reflective of the opioid-dependent population nationally. However, urban African Americans are an important population that has historically had limited access to buprenorphine in the public sector, and this study adds to our understanding of treatment entry decisions in this disenfranchised urban population. Another limitation is that, unlike extended ethnographic data, the qualitative data for this study were limited to direct responses to several targeted questions that were asked with minimal additional probing. However, the questions were conceptually straightforward and the approach proved to be an efficient data collection method. Parallel data is not yet available from individuals who chose to enter treatment with methadone rather than buprenorphine. Despite these limitations, this study provides a unique portrait of patients' reasons for choosing buprenorphine over methadone during a time when barriers to accessing both modalities were lowered as a result of policy decisions. As such, the study allowed for an exploration of perceived differences between buprenorphine and methadone with respect to pharmacology and service structure, without the obscuring influence of unequal access and availability.

Acknowledgments

Funding for this study was provided by Grant No. 1RC1DA028407 (PI Mitchell) from the National Institute on Drug Abuse, which did not play a role in study design; in the collection, analysis, and interpretation of data; in the writing of the report; or in the decision to submit the paper for publication. We thank the National Institute on Drug Abuse for funding the study. We thank Partners in Recovery and Total Health Care, the two participating treatment programs. Finally, we thank Melissa Irwin for her assistance with manuscript preparation.

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Table 1Participant Characteristics ($n= 80$).

Background Characteristics	
Female, %	33.8
African American, %	93.8
Age, mean (SD)	45.2 (7.0)
Years of education, mean (SD)	11.5 (1.8)
Currently married, %	11.3%
Paid for working within last 30 days, %	31.3%
Substance Use Characteristics	
Injection Drug Use, %	22.5
Days of Heroin Use in Past 30 days, mean (SD)	21.1 (9.9)
Days of Cocaine use in Past 30 days, mean (SD)	7.4 (10.4)
Days of Other Opiate Use in Past 30 days, mean (SD)	5.4 (8.8)
Prior experience with non-prescribed street buprenorphine, %	85.0%
Prior Opioid Pharmacotherapy Experience	
No Prior Methadone or Buprenorphine Treatment	32.5%
Prior Buprenorphine Only	25.0%
Prior Methadone Only	15.0%
Both Prior Buprenorphine and Methadone	27.5%

Table 2

Importance of reasons for choosing buprenorphine over methadone among new admissions to treatment with buprenorphine (n=80).

	Not at all Important %	A Little Important %	Very Important %
Positive Buprenorphine Experiences (self and others)			
You heard good things about buprenorphine and thought it may work for you.	10.0	16.3	73.8
You know people on buprenorphine who have been successful.	8.8	22.5	68.8
You tried buprenorphine on the street and it worked.	15.0	11.3	73.8
Treatment Delivery Structure			
You get take-home doses sooner with buprenorphine.	68.8	10.0	21.3
The rules at methadone programs are too strict.	91.3	1.3	7.5
Methadone programs are too crowded.	85.0	10.0	5.0
There is too much counseling with methadone treatment.	88.8	6.3	5.0
Methadone treatment is too expensive.	88.8	3.8	7.5
Pharmacological and Health Effects			
You don't like how methadone makes you feel.	25.0	15.0	60.0
Methadone is bad for you physically.	5.0	10.0	85.0
The withdrawal from methadone is worse than with buprenorphine.	8.8	13.8	77.5
You have to stay on methadone too long.	35.0	12.5	52.5
Methadone Stigma			
People on methadone aren't really clean.	46.3	20.0	33.8
People at methadone clinics aren't serious about recovery.	58.8	22.5	18.8
Other people (like friends, family or probation/parole officers) would not want you to take methadone.	56.3	12.5	31.3
You think methadone treatment is a "last resort" for people who can't stop using by any other means.	53.8	20.0	26.0

Interviewer's instructions, read verbatim: "I am going to list some other reasons that people may have for choosing buprenorphine treatment over methadone. For each reason I list, please tell me if the reason was not at all important, a little important, or very important."